CLAIMS

1. An human antibody, or its functional fragments, against the HCV E2 protein characterized in having an *in vivo* neutralizing activity.

2. Antibody according to claim 1, being the antibody e137 characterized by having the following sequences of variable parts of the heavy chain and the light chain:

e 137 Heavy chain (HC)

LLEQSGSEVKVPGSSLKVSCKTSGGTFSTYTFSWVRQAPGQGLEWMG
GITPIIGIANYARNFQDRVTITADESTSTVYMEVRRLRSEDTAVYYCAKTS
EVTATRGRTFFYSAMDVWGQGT

e 137 Light chain (LC)

MAELTQSPSFLSASVGDRVTITCRASQGISNYLAWYQQKPGKAPKLLIYA
ASTLQSGVPSRFSGSGSWTEFTLTISRLQPEDFATYYCQHLNTYPWTFG
QGT

3. Antibody according to claim 1 being the antibody e301 characterized by having the following sequences of variable parts of the heavy chain and the light chain:

e 301 Heavy chain (HC)

LLEQSGSEVKKPGSSVRVSCTTSGGTLSDYGFNWLRQAPGQGPEWMG
GIIPLFRRTTYGQKFQGRLTITADESTGATYMELSSLRSDDTAVYYCARE
KVSVLTGGKSLHYFEYWGKGT

e 301 Light chain (LC)

MAELTQSPATLSVSPGERATLSCRASQSVSSRLAWYQQKRGQAPSLLIY
DTSSRATGVPARFSASGSGTQFTLTISSLQSEDFALYYCQQYNDWPSTF
GQGT

4. Composition for anti-HCV therapy comprising in a therapeutically effective amount at least one of the antibodies according to the preceding claims.

5. Composition according to claim 4 for topical use in gel, creme, ointment and ovule formulations.

6. Use of the antibody according to claims 1-3 for validating anti-HCV vaccines.

7. Nucleic acid coding for antibody according to one of claims from 1 to 3.

8. Recombinant expression vector comprising nucleic acid according to claim 7, able to effectively express the antibody of claims 1 to 3 in prokaryote or in eukaryote cells.

9. Recombinant vector according to claim 8 further comprising a nucleotide sequence coding for a signal peptide, substantially contiguous with the sequence coding for the antibody of claims from 1 to 3, able to export this antibody out of the cell environment.

10. Use of the recombinant vector according to claim 9 in gene therapy.

11. Method for the determination of the presence of antibodies directed against different epitopes of the HCV E2 protein in a biological fluid comprising the steps of:

a) determining the presence of antibodies in said fluid able to inhibit the binding of specific human Fab directed against different epitopes of protein E2;

b) correlating the presence of so titered antibodies with clinical characteristics of patients, such as prognosis, responsiveness to therapy, infectivity.